

Principles



GUIDING PRINCIPLES

SUSTAINABILITY: Meeting the needs of the present without compromising the needs of the future.

- Sustainability should be an overarching principle that applies to all new construction
- Retrofitted elements should be brought up to date with current standards for green design
- Ideas for creating a more sustainable Newtonville include but are not limited to green roofs, green and living walls, solar panels, and optimizing sunlight and solar gain

ADAPTABILITY: Accommodating a variety of future scenarios, with spaces still appropriate for present use.

- The proposed design solution should be adaptable and allow for possible changes over time after the project is completed to allow for future smart growth in Newtonville
- The solution should not only be adaptable over time, but in space as well, providing flexible-use spaces for events and other attractions

CONNECTIVITY: Enhance physical, visual, and interpersonal ties.

- The proposed design solution for Newtonville should provide a unified and cohesive whole between the area north of the turnpike and the area south of the turnpike

PROJECT GOALS

1. Create a town center for Newtonville

- Open Spaces: The town center should provide open spaces to attract both residents and commuters and foster community interaction
- Iconic Elements: The town center should have defining iconic elements that can become Newtonville's new identifying features
- Diversifying Uses and Affordability: Mixed-use construction should be incorporated into the town center in an affordable manner to foster future urban development
- Unify Streetscape: The streetscape and nature of the town center should serve as a unifying element between the streetscapes of the north and south areas of Newtonville and should be of an appropriate scale for the village

PROJECT GOALS

2. Create a comprehensive transportation network that establishes regional connections

- Newtonville should provide easy and convenient transportation connections with its immediate surroundings and not just with Boston
- Transportation elements to be improved or implemented include, but are not limited to, pedestrian pathways, bicycle pathways, improved and extended bus routes, and improved commuter rail station

3. Restore connections between north and south

- The proposed design solution for Newtonville should provide a unified and cohesive whole between the area north of the turnpike and the area south of the turnpike
- Any historic buildings in either area should be restored, preserved, and celebrated as a means of unifying the streetscapes of north and south Newtonville

Design Proposals



MASTER PLAN



DECKING STRUCTURE: Existing Conditions



CURRENT CONDITIONS:

19 feet of clearance above commuter rail (MBTA)

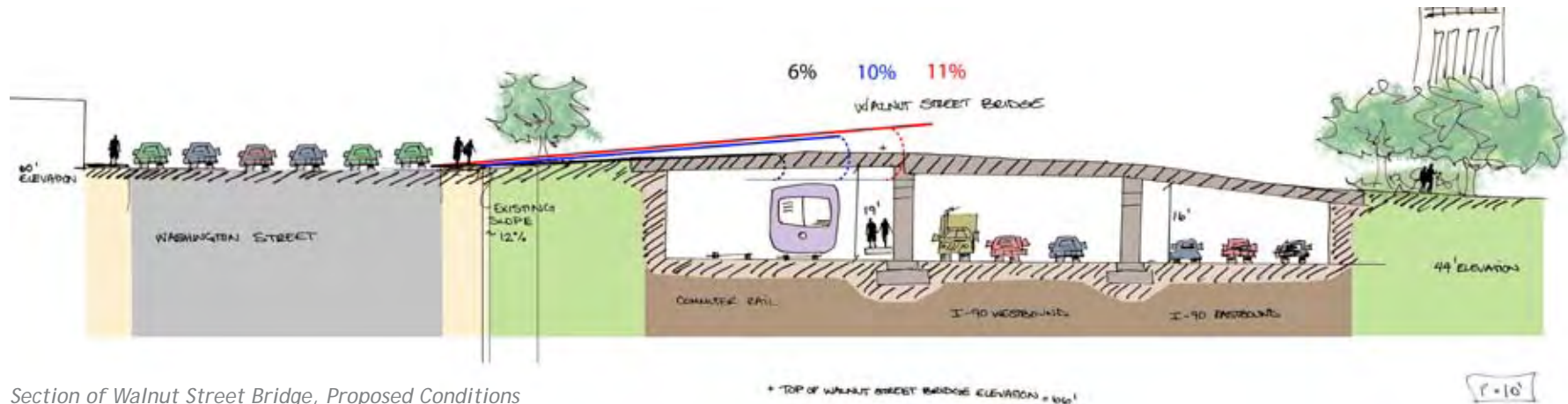
16 feet of clearance above I-90 (AASHTO - American Association of State Highway and Transportation Officials)

CURRENT SLOPE TO WASHINGTON STREET FROM TOP OF BRIDGE = ~6%

The decking structure was proposed to span both east and west of Walnut Street over the Massachusetts Pike / Interstate-90 (I-90) and the commuter railway, which consists of two tracks with clearance for a freight train. Considerations for such a decking structure include, but are not limited to:

- Appropriate clearance over the commuter railway
- Appropriate clearance over I-90
- Meeting the slopes and elevations of the existing developed areas and connecting to existing roadways on the southern side and the northern side of Mass Turnpike and the commuter rail
- Complying with maximum slopes for ADA accessibility and considering visibility constraints for bridges and roadways
- Tying the decking structure into the community and surrounding architecture and infrastructure

DECKING STRUCTURE: Proposed Conditions



Section of Walnut Street Bridge, Proposed Conditions

PROPOSAL:

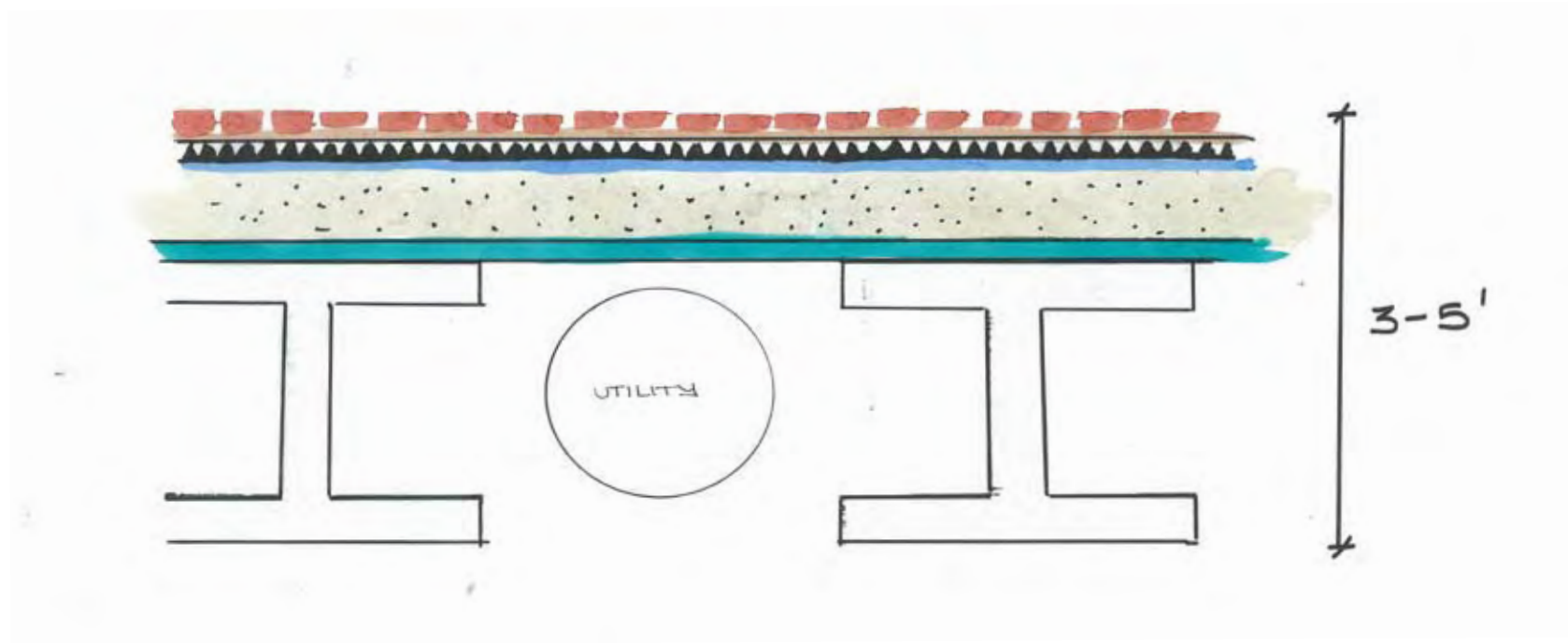
The Massachusetts Bay Transportation Authority (MBTA) has previously required 19 feet of vertical clearance above the commuter rail train tracks at the Walnut Street Bridge. Based on projections for future development, they would like to attain 22.5 feet of clearance for all future development.

In order to accommodate a clearance of 22.5 feet over the commuter rail, the bottom of the decking would need to be at a minimum elevation of 66.5 feet. Assuming that a three foot decking structure was sufficient to support any infrastructure above the decking, the top of the decking structure would need to be a minimum of 69.5 feet in the area spanning the commuter railway. In order to meet the grade of the Washington Street roadway, the elevation change from the Walnut Street bridge to Washington Street would cause a 10 - 11% grade from Washington Street to the Walnut Street bridge. The grade would be closer to 10% assuming that Washington Street is narrowed. These grades are not ADA accessible and make for a very steep ramping area in addition to causing a visual barrier between the north and south of the highway/commuter rail corridor.

Therefore, this decking structure does not allow for the additional clearance proposed by the MBTA for future development, however, it does not make the current clearance any worse than the existing infrastructure currently allows. The decking structure will mimic the current design and arching structure of the existing Walnut Street Bridge, utilizing the same locations for structural columns between the opposing lanes of traffic on the highway, and between the highway and the commuter rail.

Any buildings or other structures above the decking would be leveled by filling above the deck and retaining walls would be applied where necessary.

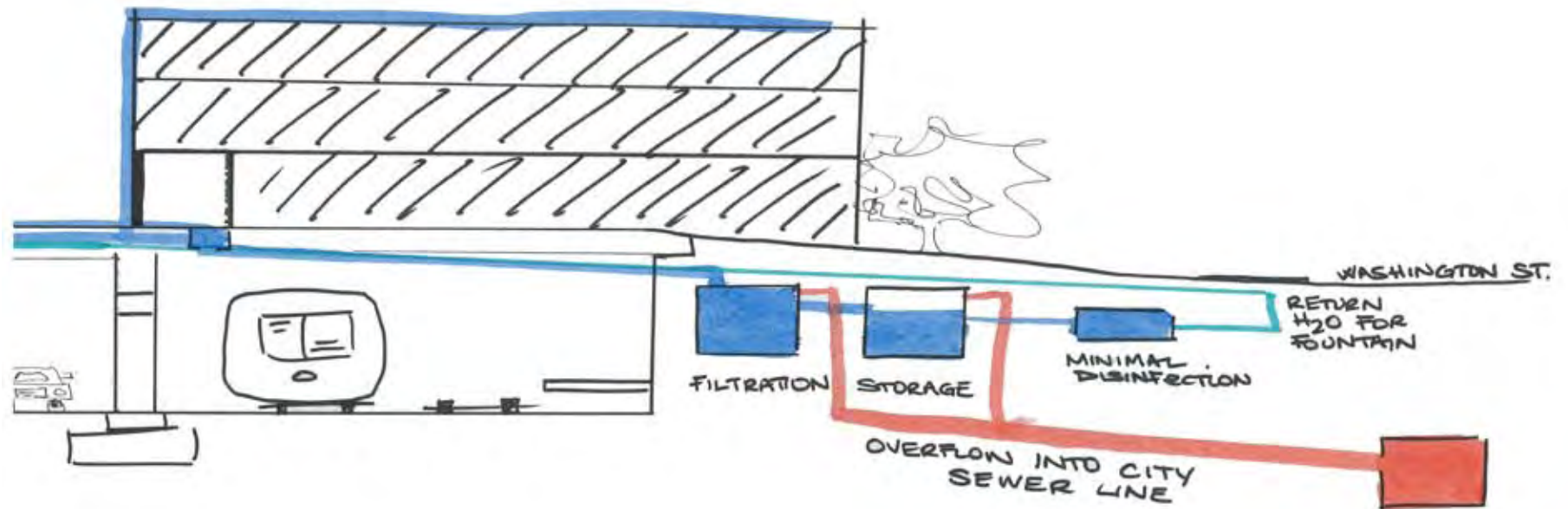
DECKING STRUCTURE: Construction Detail



TYPICAL CROSS SECTION OF DECKING STRUCTURE

Approximate thickness of decking structure: 3-5 feet deep

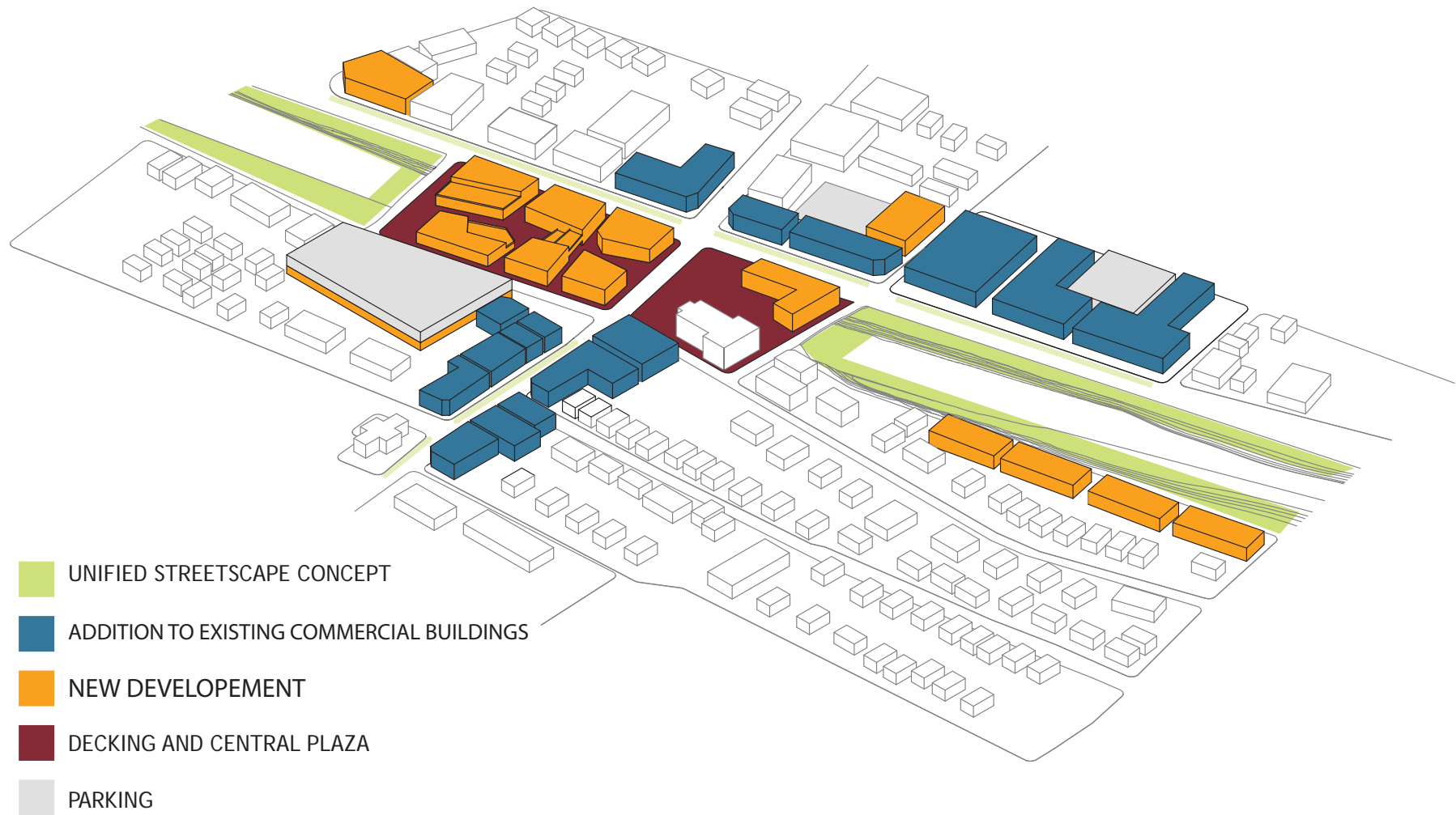
DECKING STRUCTURE: Drainage/Stormwater Management



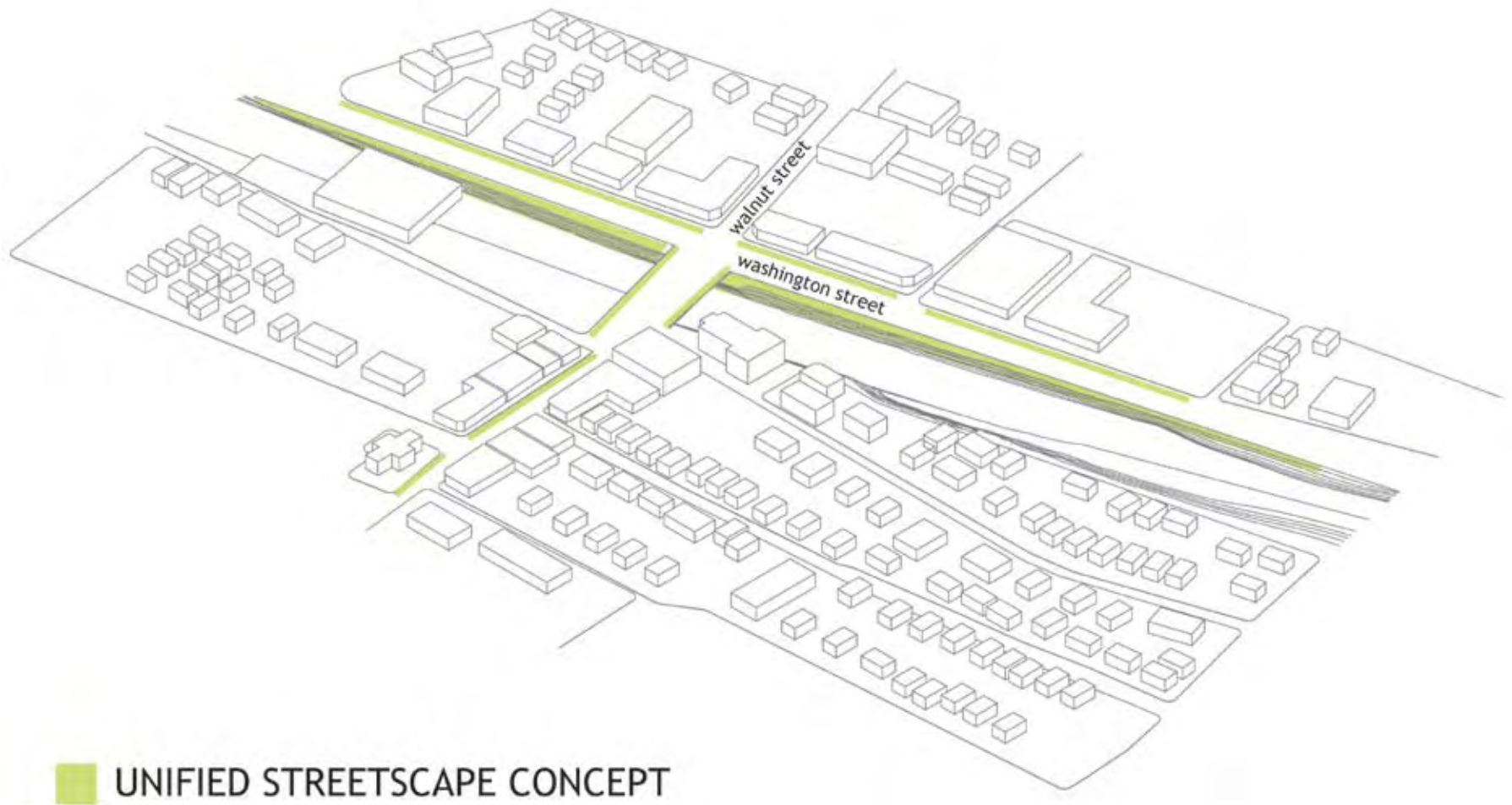
STORMWATER MANAGEMENT FOR DECKING STRUCTURE:

- Collect rainwater runoff from site
- Run it under the decking to collect, filter, store and disinfect
- Return water to above-decking interactive fountain

PHASING: Complete Plan



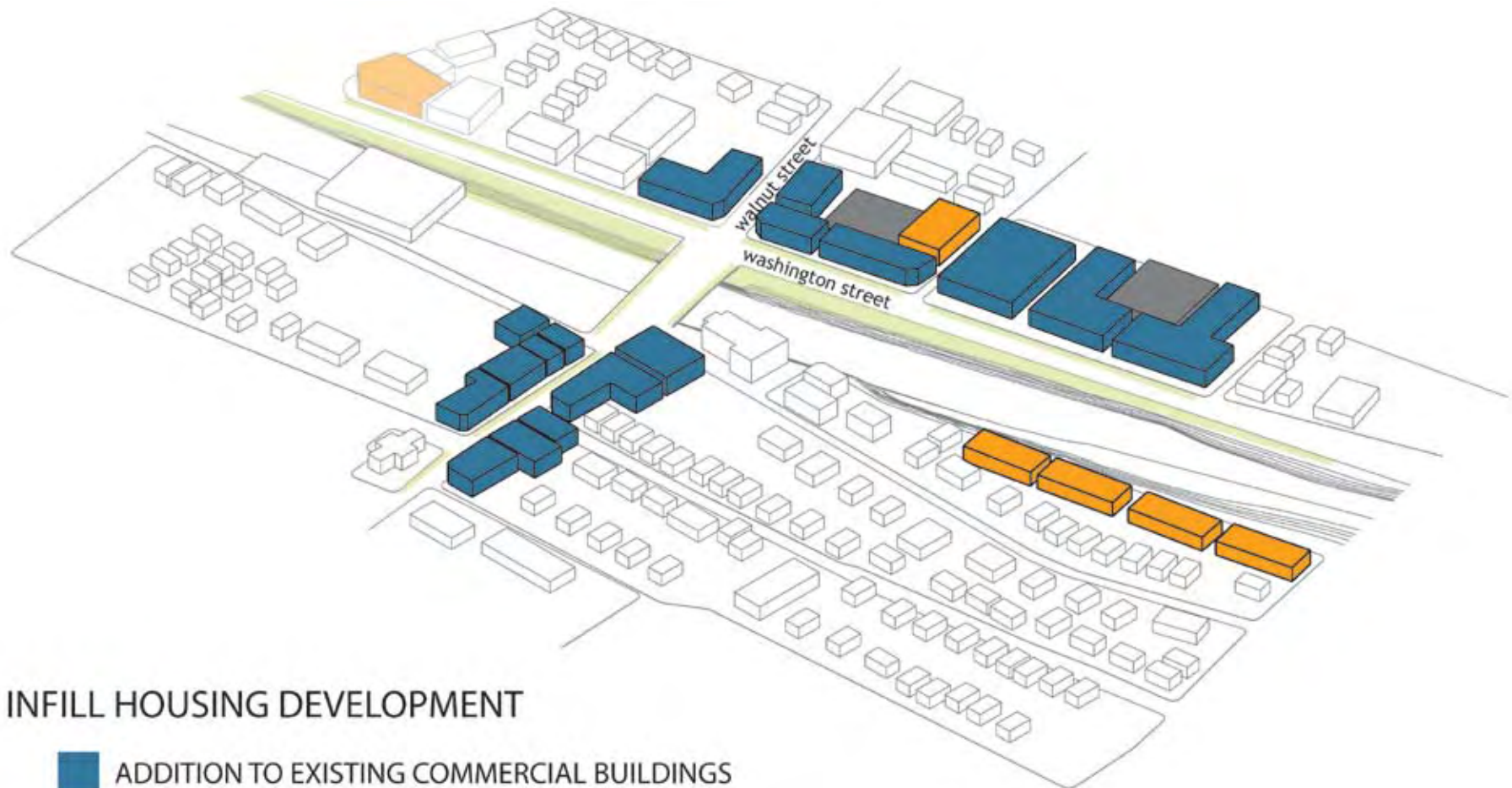
PHASING: Phase One



UNIFIED STREETSCAPE CONCEPT

This phase is focused on the streetscaping of Washington Street and Walnut Street in order to create pedestrian friendliness. A new highway-scape is also introduced to increase accessibility to the commuter rail platform.

PHASING: Phase Two

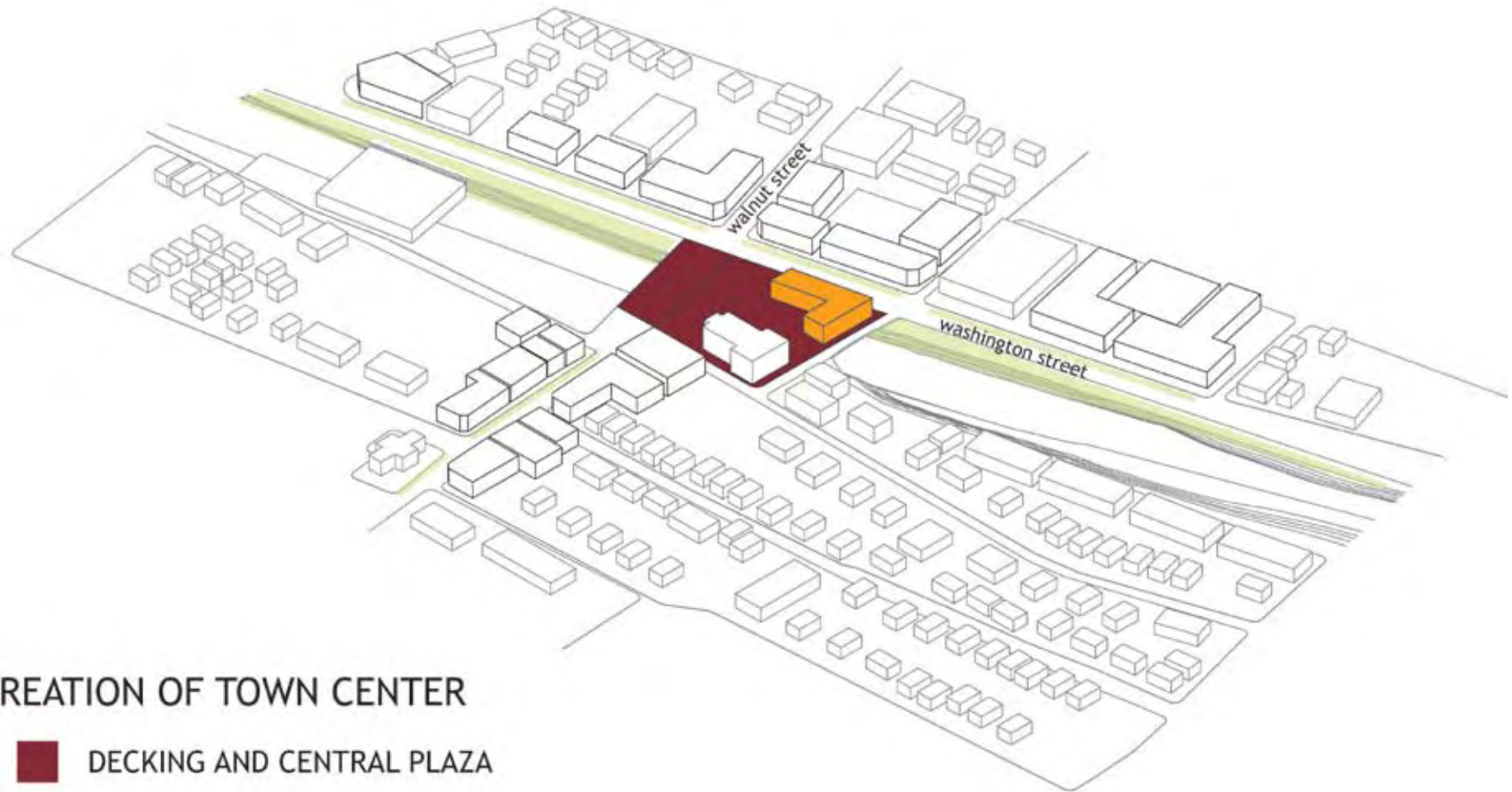


INFILL HOUSING DEVELOPMENT

- ADDITION TO EXISTING COMMERCIAL BUILDINGS
- NEW DEVELOPEMENT


The phase concentrates on filling in areas which show opportunity for development. Density is also introduced to the area by retrofitting existing structures by adding additional levels in order to increase the density of the town center area.

PHASING: Phase Three



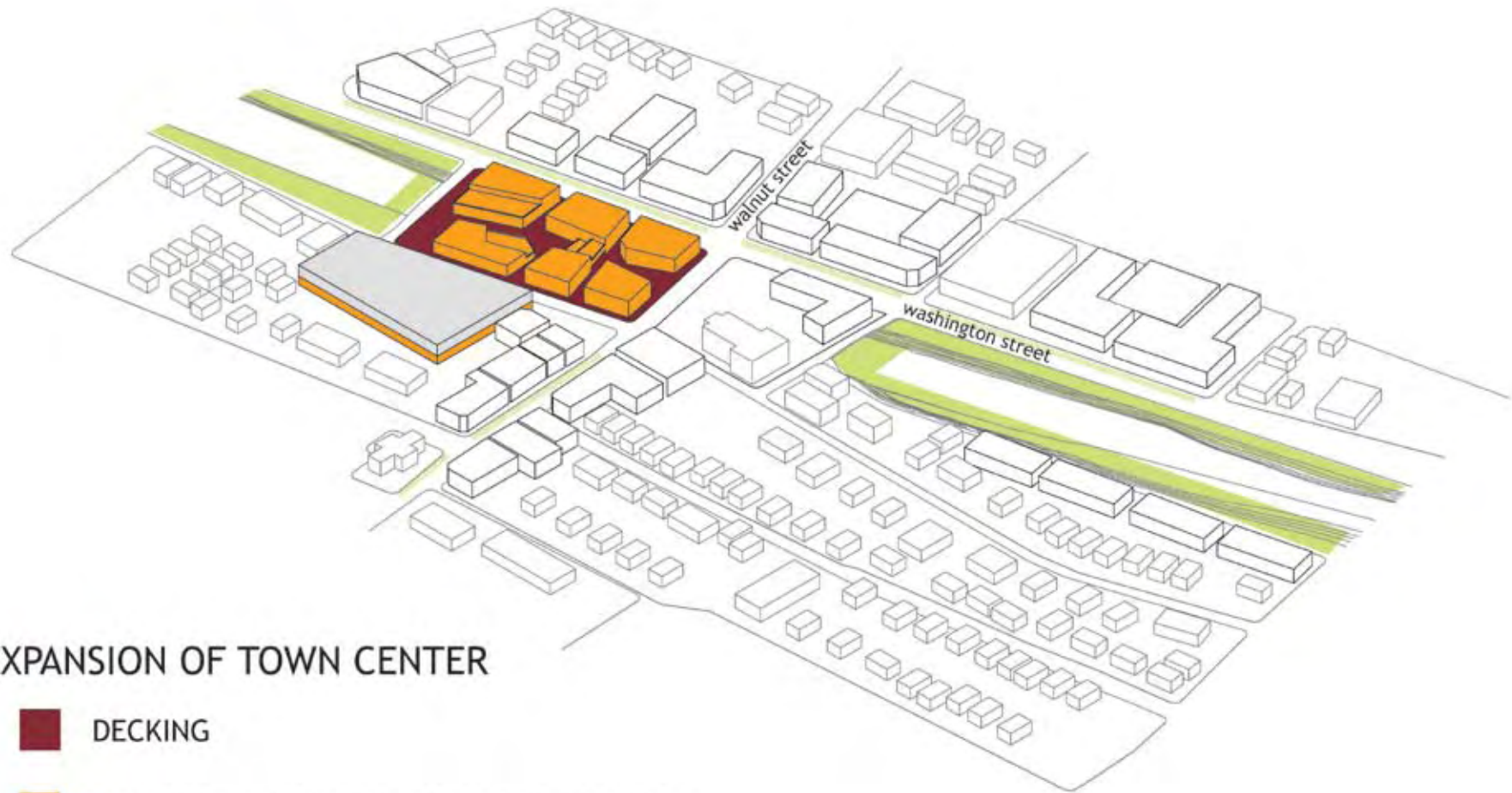
CREATION OF TOWN CENTER

 **DECKING AND CENTRAL PLAZA**

 **TRANSIT HUB**
rail entrance
ground floor retail
two stories of parking

During Phase 3, the Walnut Street bridge has been reconstructed to include the first half of the deck around the existing church structure. The deck will contain a large central plaza area and a transportation hub.

PHASING: Phase Four

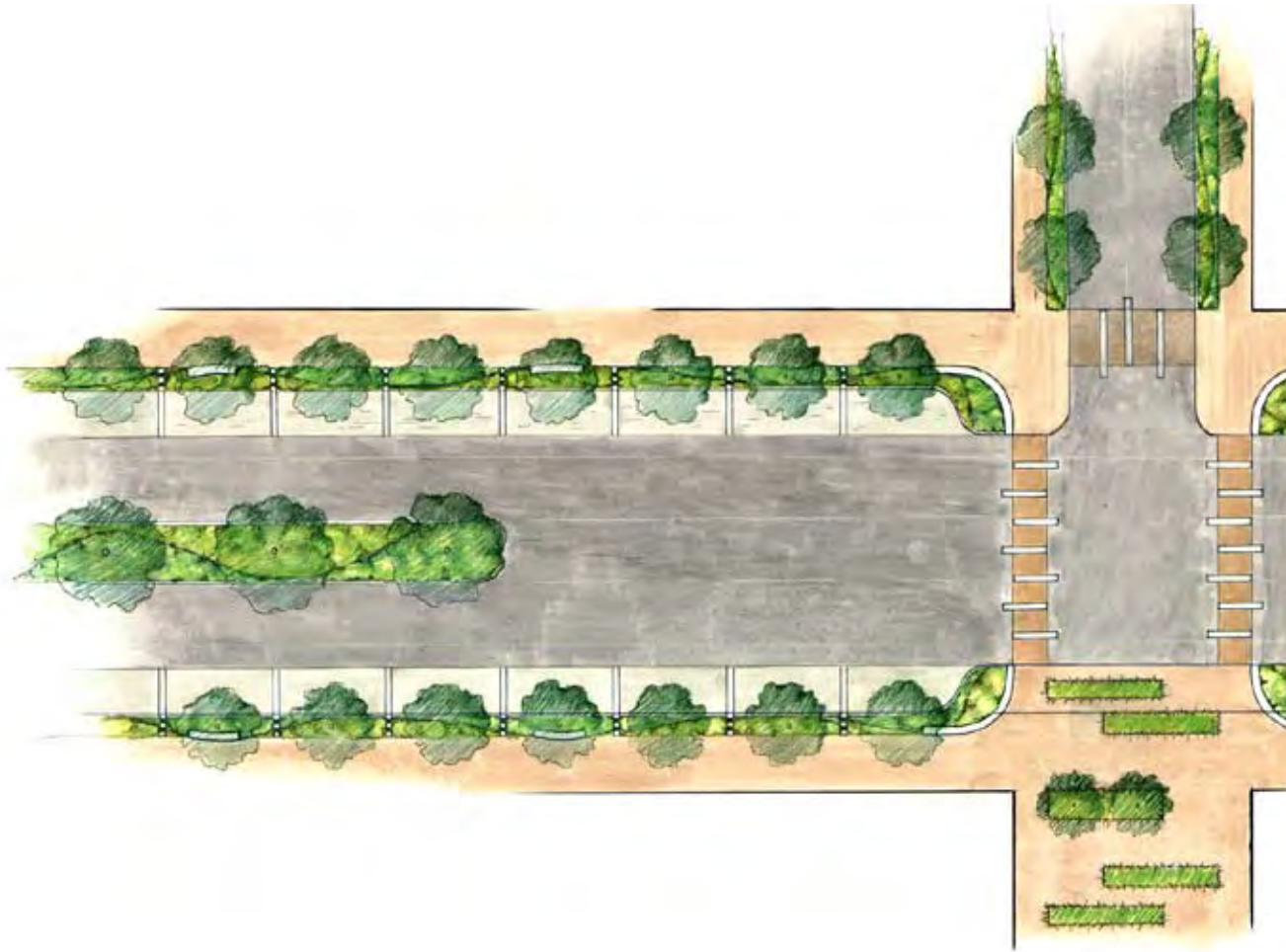


EXPANSION OF TOWN CENTER

-  DECKING
-  NEW RETAIL DEVELOPMENT WITH UPPER STORIES OF OFFICE AND RESIDENTIAL

The second half of the deck is constructed during this phase. The deck has a small area which serves as an extension of the large plaza area. A small commercial center is also introduced to serve the newly developed area.

STREETSCAPE IMPROVEMENTS



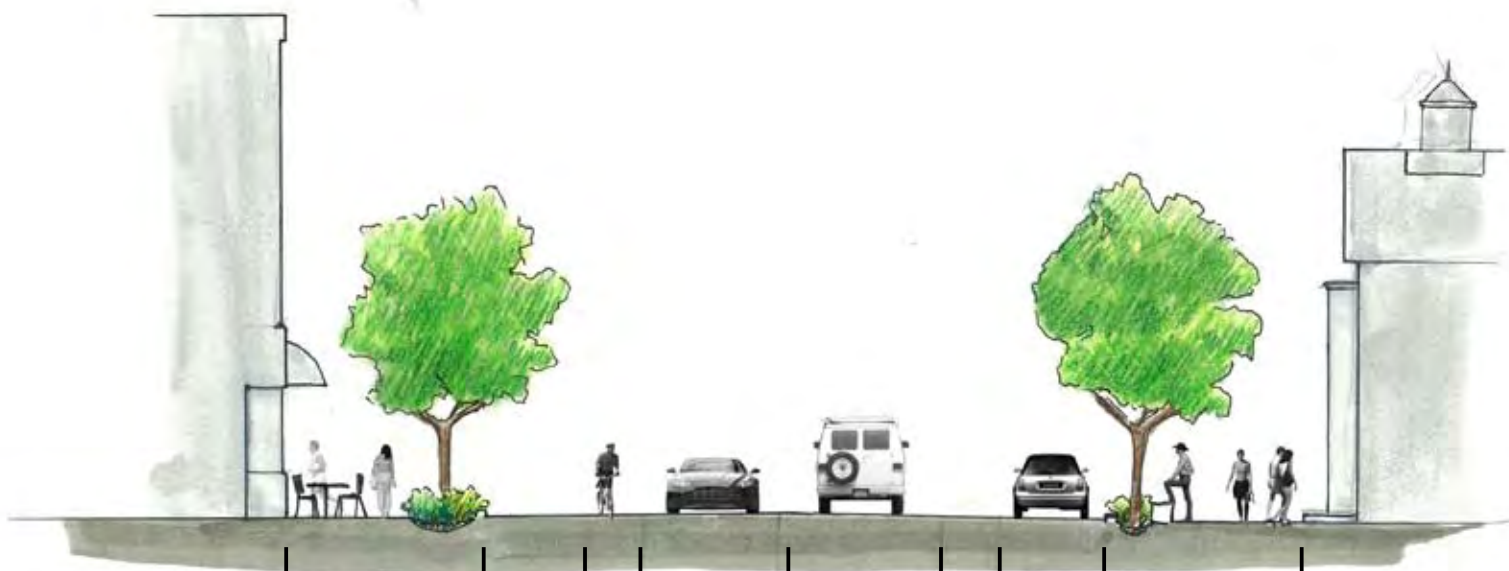
Prototype for Revitalizing Pedestrian Life

This prototype for Newtonville's main thoroughfares (Walnut St. and Washington St.) encourages pedestrian activity, slows vehicular traffic, and provides lanes for bicyclists in the heart of the village.

Features include:

- Only one driving lane in each direction and curb extensions to slow traffic and increase the safety of pedestrian crossings
- Ample and shaded sidewalks with benches for pedestrian comfort
- Bicycle lanes
- Materials that enhance the historic architectural character of the village and reveal multi-modal use
- Stormwater infiltration through planting strips and porous pavement under parallel parking

STREETSCAPE IMPROVEMENTS



Proposed

14'	8'	4'	11'	11'	4'	8'	14'
Sidewalk and planting strip	Parking	Bike	Driving lanes		Bike	Parking	Sidewalk and planting strip

Existing

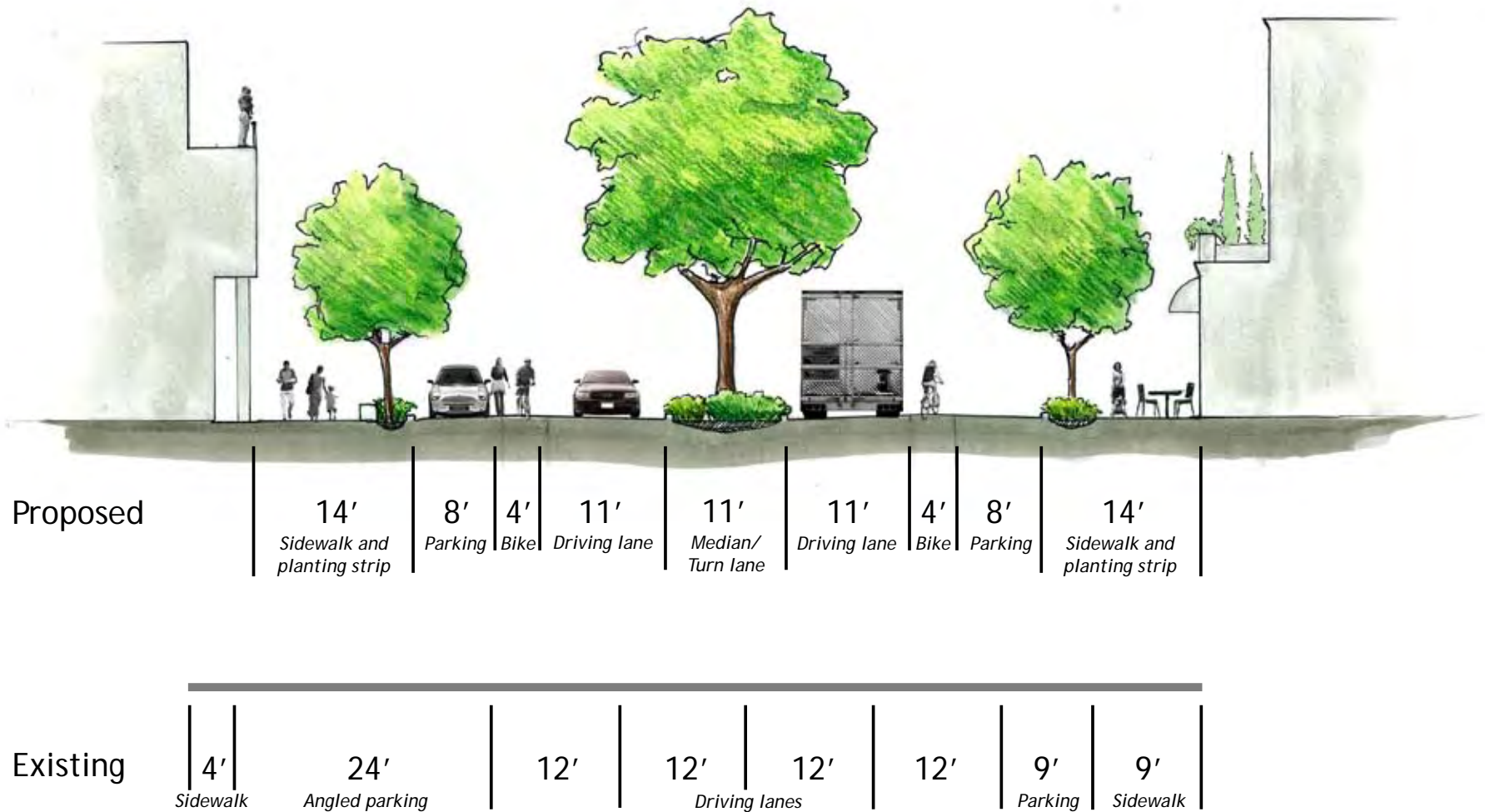
9'	9'	12'	14'	12'	9'	9'
Sidewalk	Parking	Driving lane	Painted median	Driving lane	Parking	Sidewalk



Walnut Street Improvements

- Space re-allocation: Remove painted median
- Increase space for pedestrians, bicyclists, and trees
- Strategically raise facades for multi-use infill
- Stormwater infiltration through planting strips and permeable pavement under parking

STREETSCAPE IMPROVEMENTS



Washington Street Improvements

- Double-sided street life
- Space re-allocation: Remove two traffic lanes and angled parking
- Increase space for pedestrians, bicyclists, and trees
- Strategically raise facades for multi-use infill
- Stormwater infiltration through planting strips and permeable pavement under parking

STREET CHARACTER PRINCIPLES



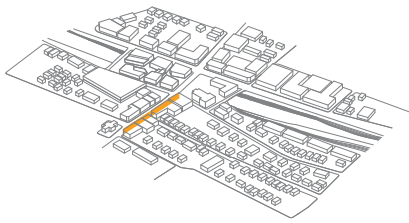
Infill development along Washington and Walnut Streets offers opportunities for multi-family housing, office space, and a sufficient concentration of people throughout the day to support local businesses and an active street life.

Several principles should guide infill development:

- Historic architecture should be preserved. New development can occur as second or third stories above historic structures.
- New architecture should not mimic historic buildings, but should complement its scale, materials, and details.
- A diverse facade supports activity not just at the level of the street, but above it.
- Green roofs should be incorporated wherever possible for rain water collection and management.

The following four pages illustrate the potential character of infill development along Walnut and Washington Streets.

Walnut East



Compilation Illustration

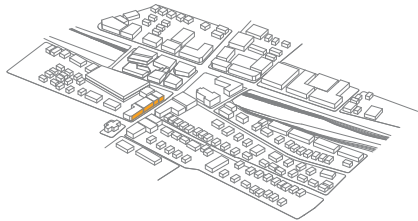


Proposed Streetscape



Existing Streetscape

Walnut West



Compilation Illustration

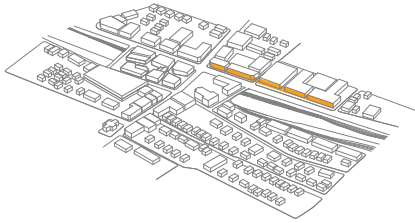


Proposed Streetscape



Existing Streetscape

Washington East



Compilation Illustration

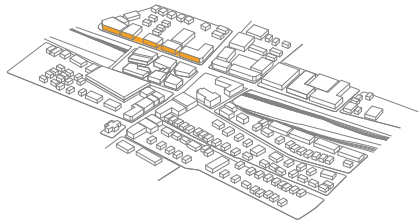


Proposed Streetscape



Existing Streetscape

Washington West



Compilation Illustration



Proposed Streetscape



Existing Streetscape

Mass Turnpike Corridor

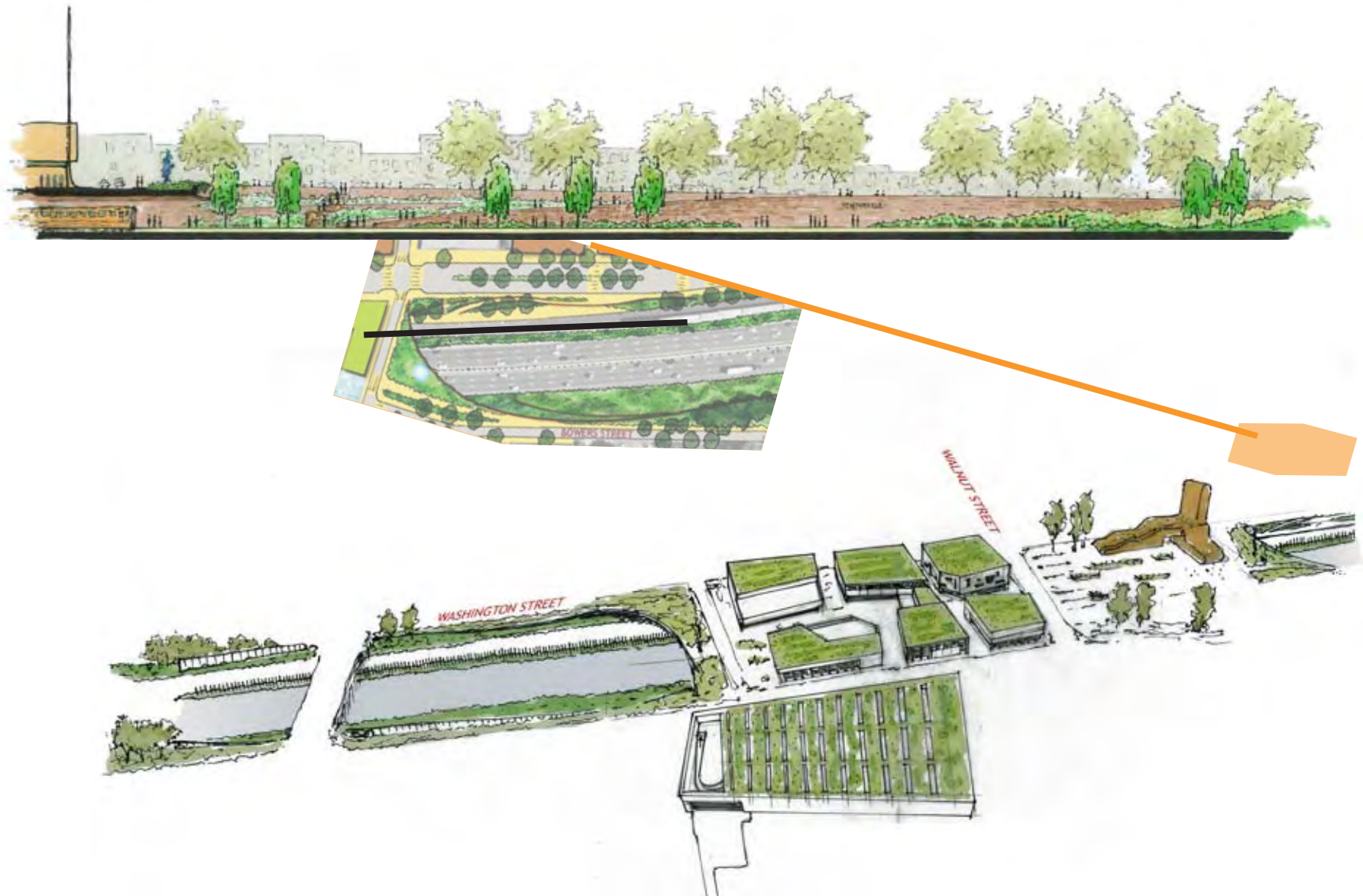


Highway-scape

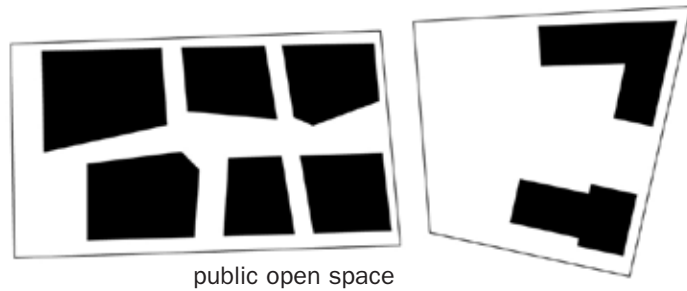
A unified and consistent “highway-scape” will act as a gateway to Newtonville for drivers on the highway and commuters arriving and departing by rail. Sound barrier walls and small retaining walls will define the edges of the corridor. Dense shrub plantings will stabilize embankments and the stones from existing retaining walls will be reused to create a linear system of markers defining a division between the rails and the highway. An accessible entrance to a new rail platform, located to the north of the tracks, will also be integrated into this landscape.



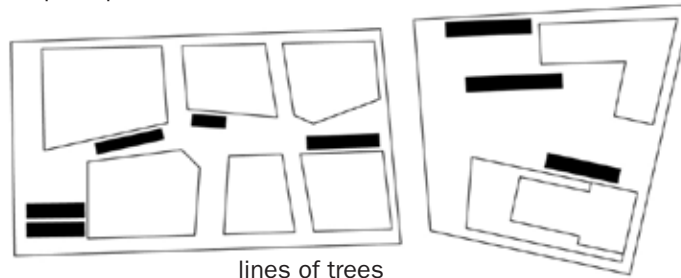
Commuter Rail Platform



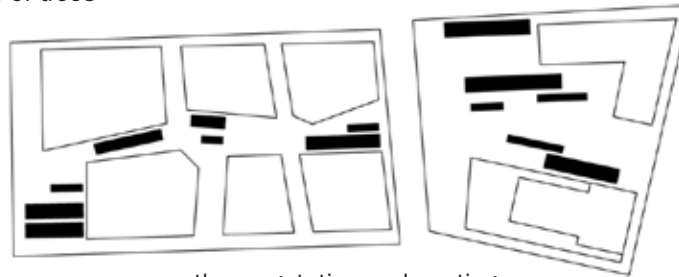
NEW TOWN CENTER



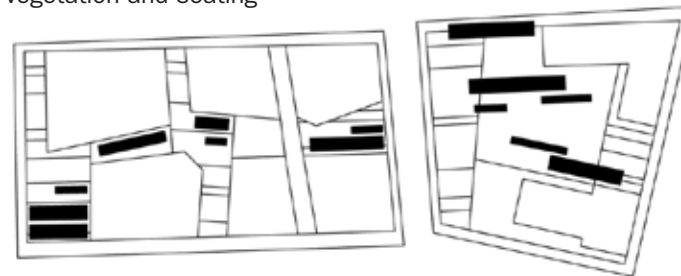
public open space



lines of trees



other vegetation and seating



pavement, water, and lawn systems

New Open Space Concept

A system of linear elements moves through the new public open space, creating a coherent center and providing casual meeting places, seating areas, and a large event space for markets, fairs, or performances.

NEW TOWN CENTER



from top to bottom : plaza plan diagram, sections showing linear elements, and view of pedestrian corridor

PIONEER COURTHOUSE SQUARE: Portland, Oregon



0 300 feet

In designing a town center for Newtonville, we considered the model of Pioneer Courthouse Square, an extremely successful public plaza in Portland Oregon. Pioneer Courthouse Square hosts a broad range of community events throughout the year in addition to providing a space for daily activities.

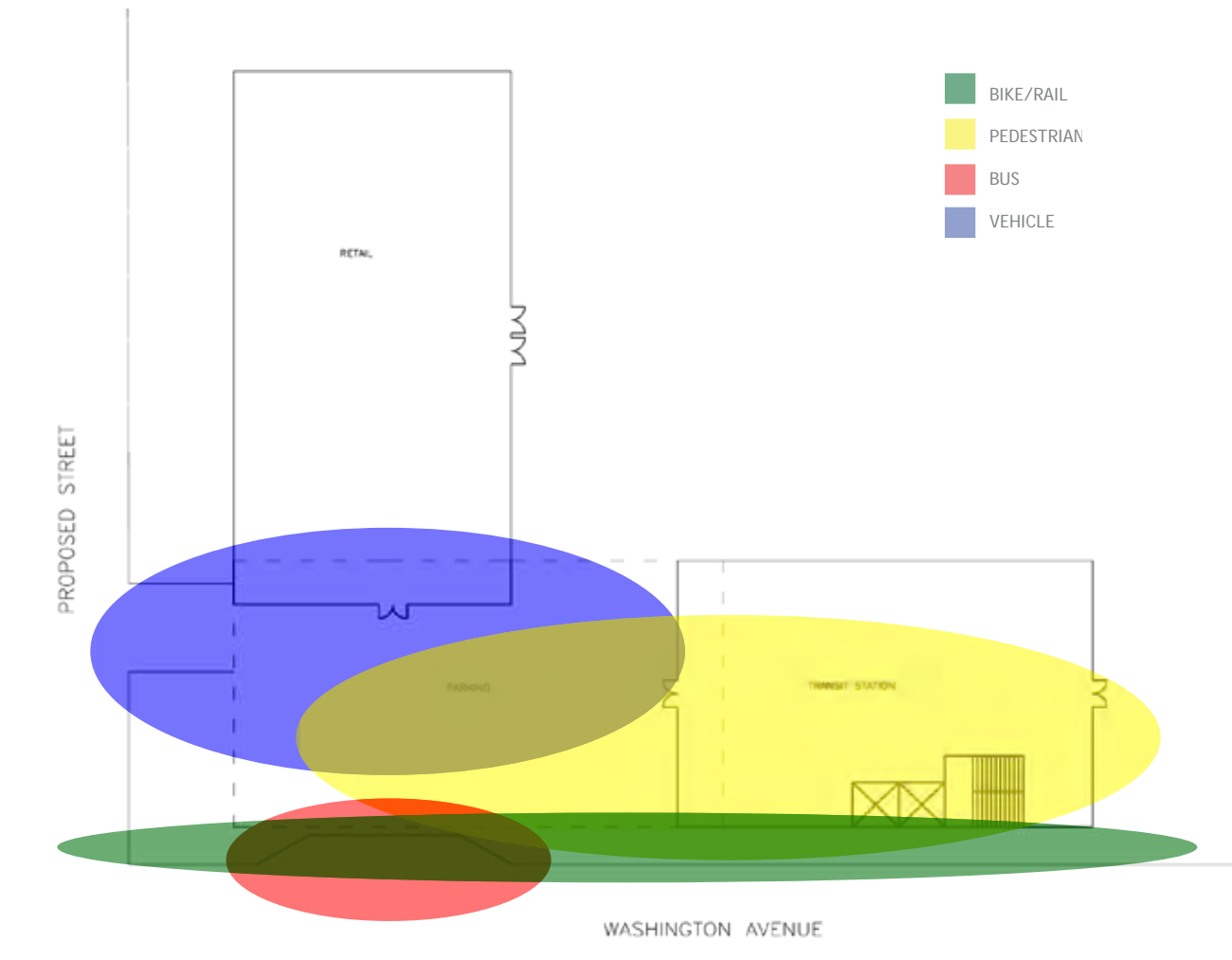
scale comparison showing Portland Oregon's Pioneer Courthouse Square (left) and Newtonville public plaza (right)

TRANSIT STATION

INTERSECTION

Intersection is seen through the interaction of people, structure, transportation, and landscape surrounding the new Transit Station.

The goal of this design was to emphasize and bring attention to the existing types of transportation available in Newtonville. With the increased exposure to transportation, the use of public and 'green' transportation will increase and bring more traffic into the village.



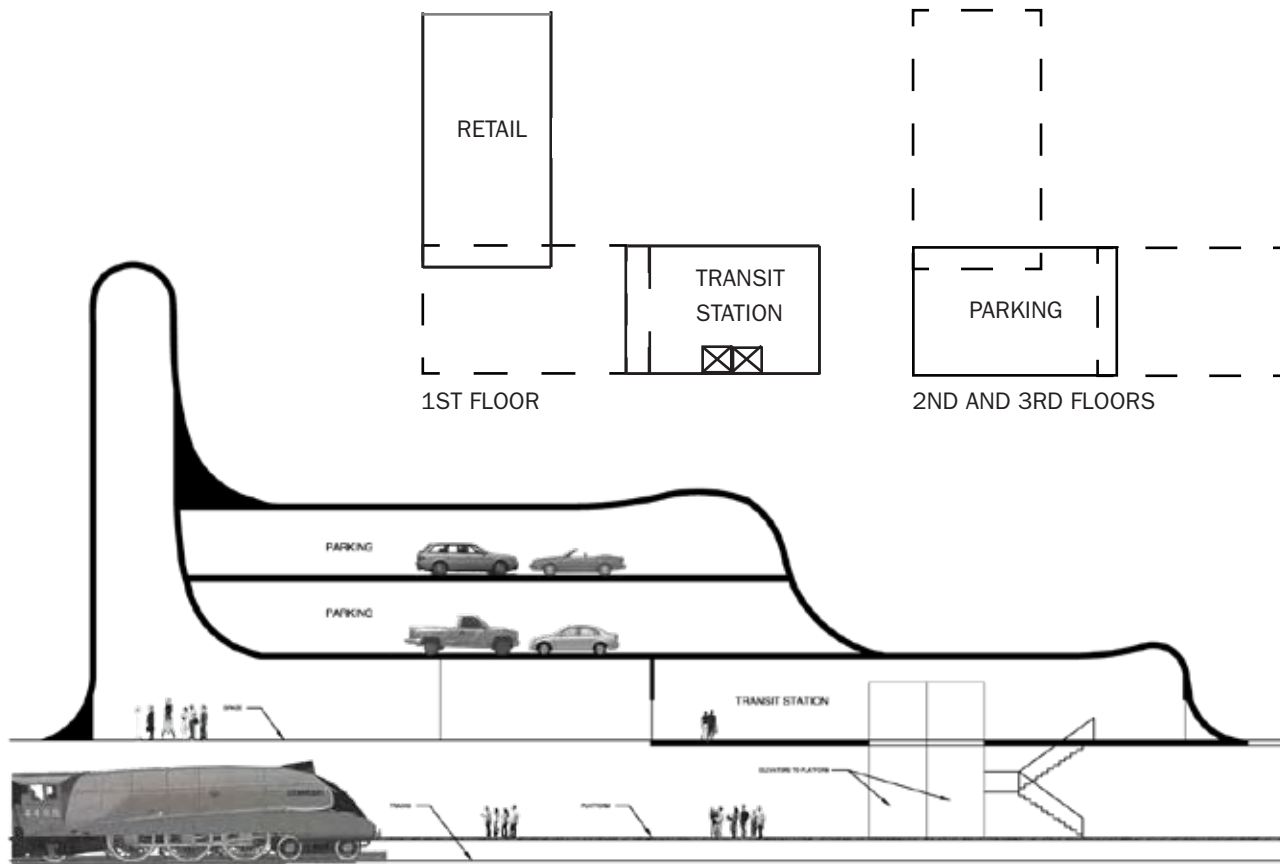
TRANSIT STATION

STRUCTURE

The Transit Station is designed for specific uses, but remains open to adaption in the future.

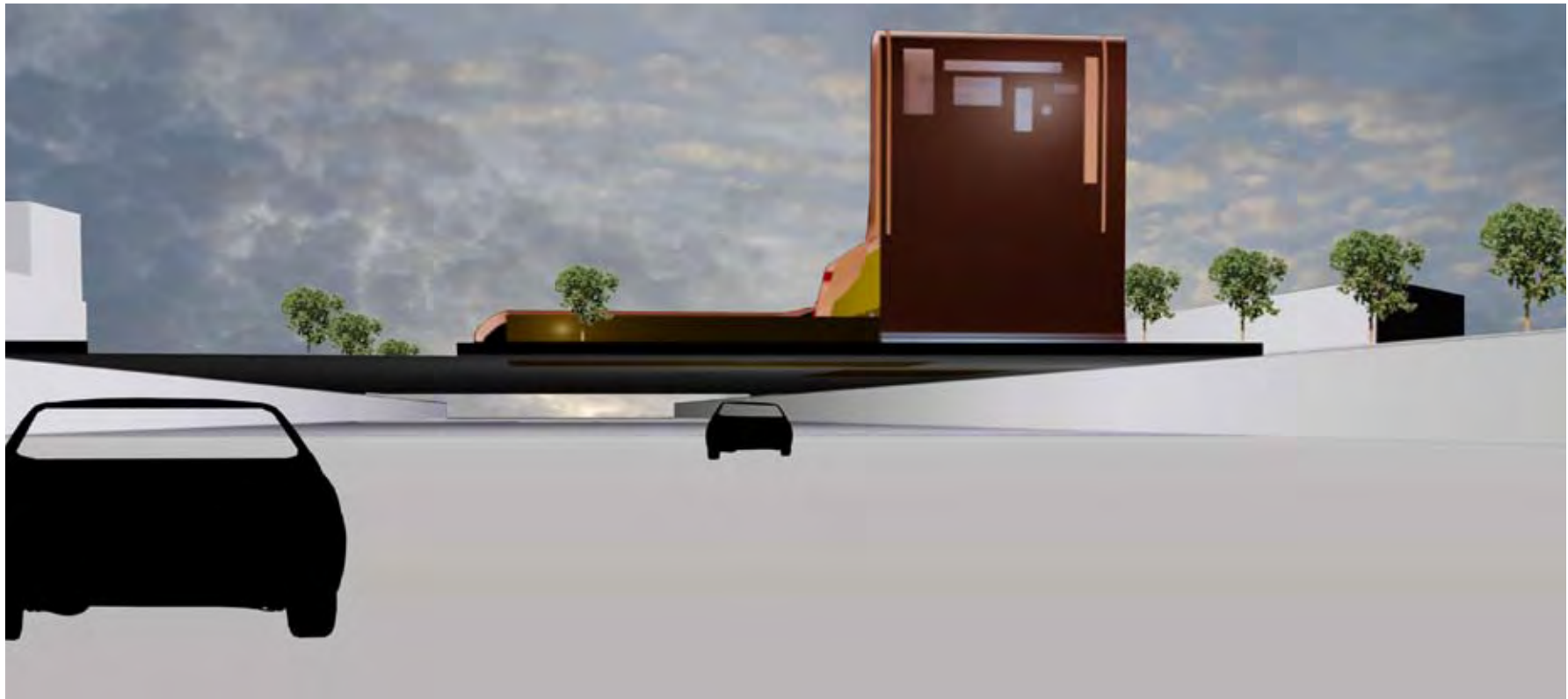
The ground level offers users retail accommodations and access to the commuter rail platform below. The upper 2 levels supply the Transit Station with structured parking.

A light well in the new iconic tower of the station provides daylight in the bus stop area underneath the raised parking structure.



BUILDING SECTION - SOUTH
SCALE: NTS

TRANSIT STATION: Mass Pike Perspective



The view traveling outbound from Boston on the Mass Pike.

TRANSIT STATION: New Street and Washington Street Perspectives



The view from the new street that defines the east edge of the deck.



The view looking southeast from the corner of Walnut and Washington Streets, towards the transit center.

TRANSIT STATION: Interior Greenway and Bus Stop Perspectives



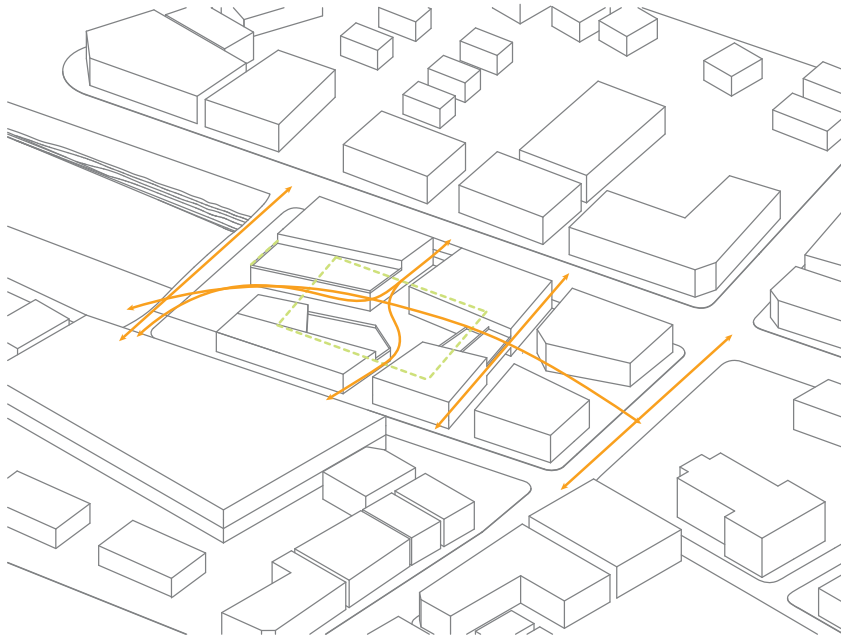
The view from the inner plaza that connects the mall to the transit center.



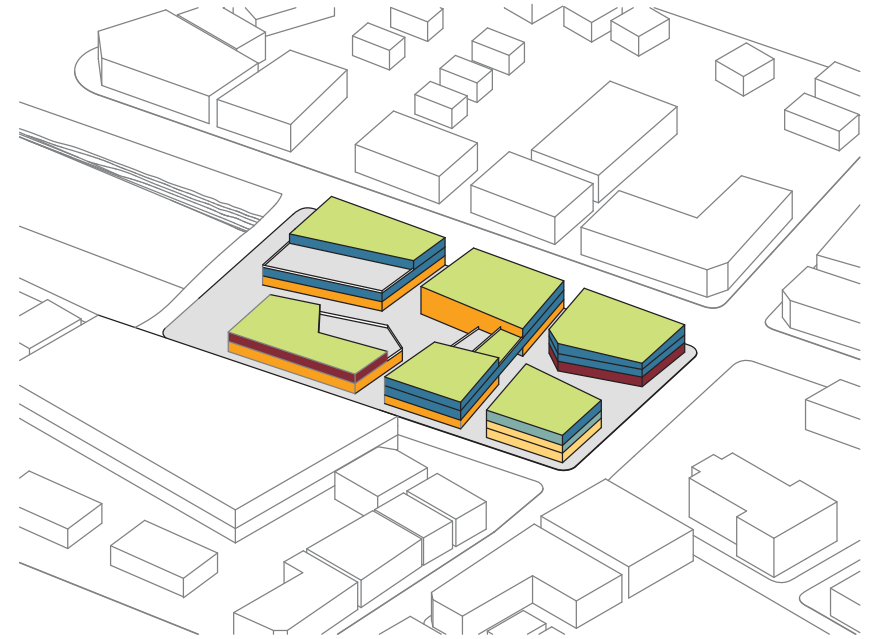
The view of the main street-level transit hub, where pedestrian, bicycle, and bus transit is focused.

TOWN RETAIL CENTER

Circulation Strategy



Program



- TERRACE/OPEN AREA
- OFFICE
- GREEN ROOF
- RETAIL
- RESTURANT
- GALLERY
- CLASSROOMS

The retail center was created in order to increase movement between the north and the south. Upper area terraces create a central space at an upper level. These areas primarily are retail, office, and restaurant spaces along with the introduction of a new arts center.

TOWN RETAIL CENTER



TOWN RETAIL CENTER



Section - View Toward Town Center

TOWN RETAIL CENTER



View of Washington Street

TOWN RETAIL CENTER



Inner Courtyard of the Retail Center

SUSTAINABILITY INITIATIVES

STORMWATER MANAGEMENT

LIVING WALLS

GREEN ROOFS

RECYCLING EXISTING BUILDING MATERIALS / RETAINING WALLS

UTILIZE FLY ASH AS AGGREGATE IN LIGHTWEIGHT CONCRETE USED ON DECKING

SOLAR ORIENTATION OF BUILDINGS

ENCOURAGE PUBLIC AND NON-MOTORIZED METHODS OF TRANSPORTATION



LONG-TERM REGIONAL PROPOSALS

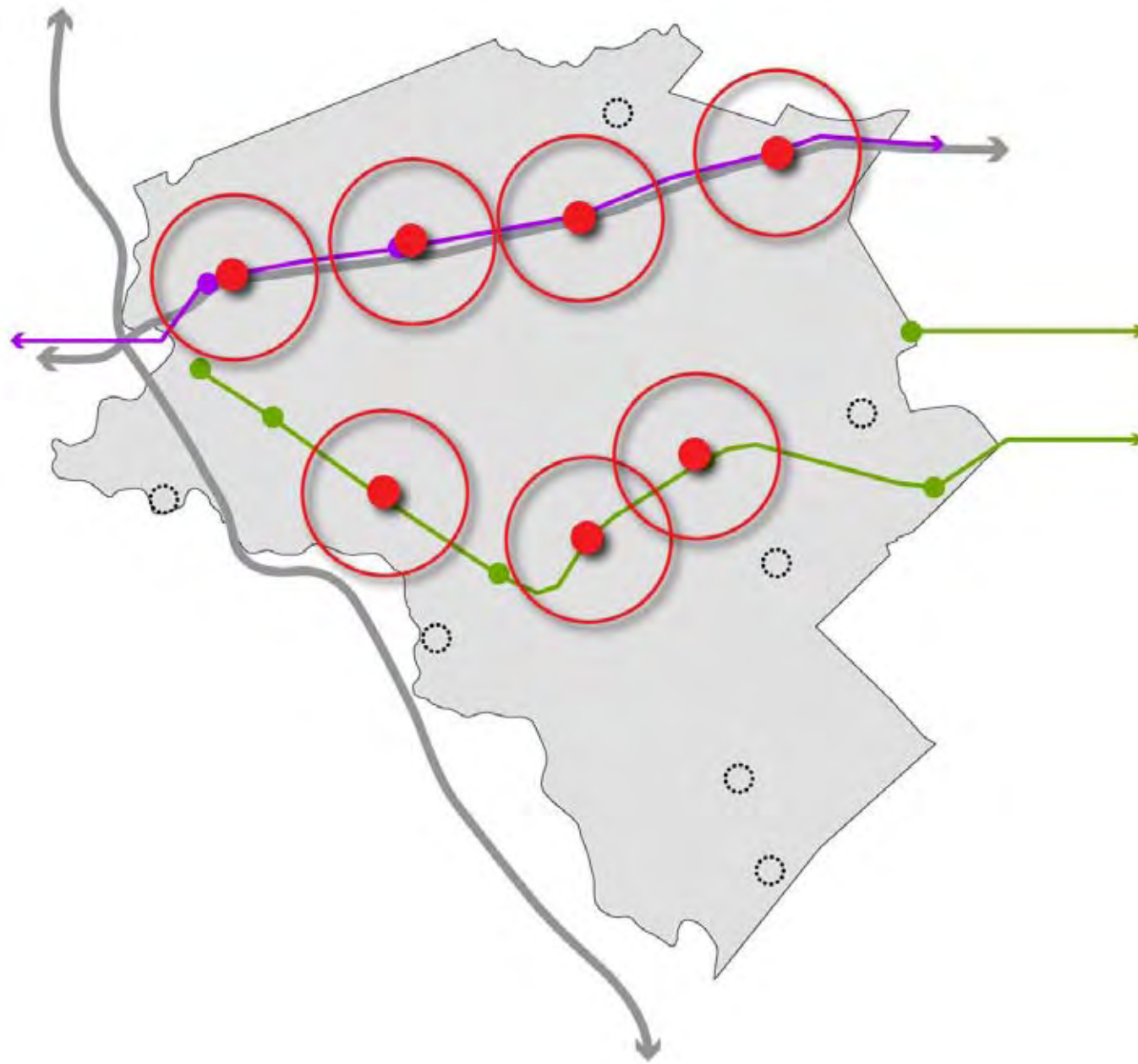


Growth Strategy

The development proposal for Newtonville creates a village center where nearby residents can attend to their daily needs and interact with each other. This center is connected to the areas surrounding it through a variety of modes of transportation.

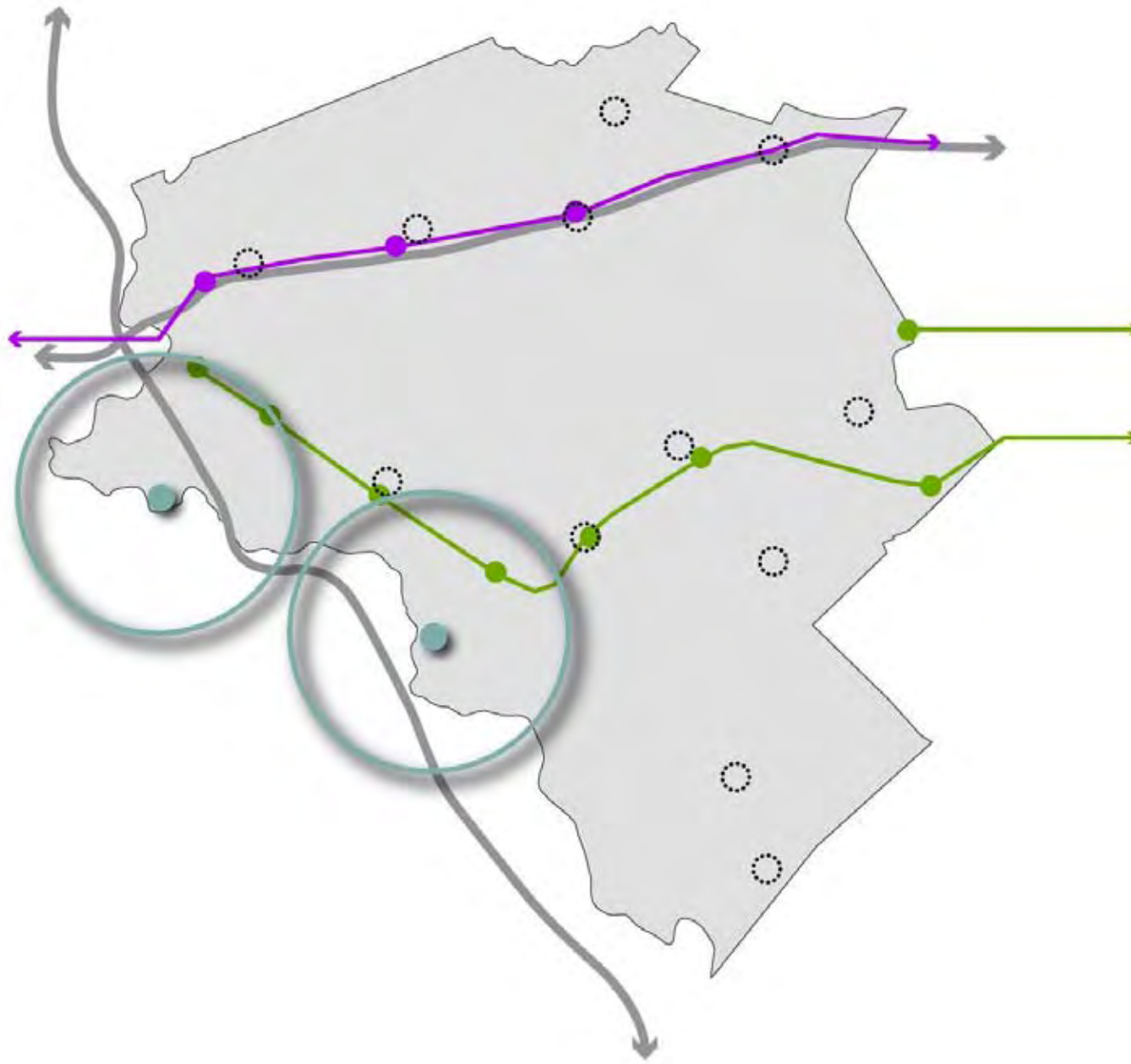
This village model accommodates a share of the population growth projected for the City of Newton by the year 2030 in their Comprehensive Plan. However, growth will need to occur in other locations throughout the city to accommodate all of the projected new residents.

LONG-TERM REGIONAL PROPOSALS



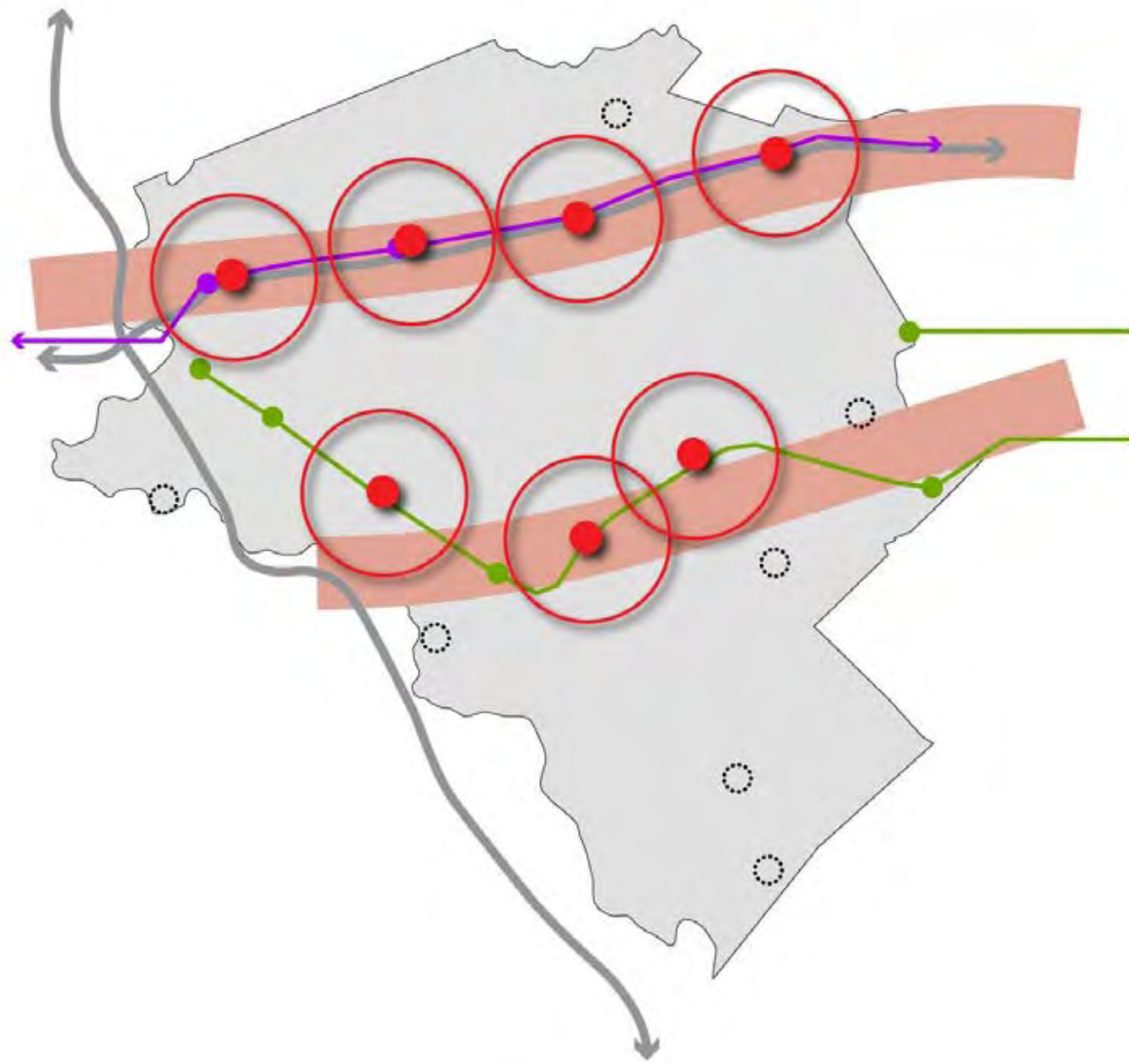
The Newtonville development should serve as a model for similar village centers elsewhere in Newton that can absorb denser development and more residents as part of the projected growth in the area. As shown in the Newtonville proposal, development should be concentrated in areas with easy access to transit. This will become increasingly important with the continued rise in the cost of fuel. Moreover, development should promote livability and functionality by providing a mix of retail options, public amenities, and residential units in close proximity to the village center.

LONG-TERM REGIONAL PROPOSALS



The Newton Comprehensive Plan anticipates significant amounts of residential and commercial growth happening along the Interstate 95 corridor in the near future. The City of Newton will need to consider the physical form of this development and the way that it will function. Due to its highway connectivity, the village concept utilized in Newtonville will need to be carefully adapted to a different scale of use. However, many of the same principles, including sustainability, adaptability, and connectivity, should be applied.

LONG-TERM REGIONAL PROPOSALS



The development patterns established by growing village centers could coalesce into two east-west transit-oriented corridors following the commuter rail and the Green Line. For this model to effectively accommodate people's needs, the functionality of these two rail lines may need to evolve. As increased residential density supplies more riders, the commuter rail may need to consider more frequent service. In order to serve as a viable option to driving, Green Line service could become more efficient. Express trains into Boston would be one strategy for increased efficiency.

The east-west corridors accommodate radial transportation patterns in and out of downtown Boston. As destinations and employment become less monocentric, there will be a greater demand for transportation that travels in alternative directions.

LONG-TERM REGIONAL PROPOSALS



North-South Connector

In order to provide transportation options in a north-south direction, the city might explore bicycle connectivity. Bicycles have few adverse impacts on the environment while still allowing people to cover greater distances than they could on foot.

Proposed development in Newtonville allows for safe and pleasant bicycle travel through this village center. Extending this connection north and south could create an extension of Charles River bikeway. The route shown at left takes advantage of existing park space and aqueduct infrastructure to make this connection. Along the way, there are opportunities for nodes of activity to serve as stopping points for riders. These include City Hall, Bullough's Pond and retail centers.

This trail connects Newton residents to the greater Boston area via bicycle. It also expands the metro area's bike network, serving as an amenity for the region.



Thanks for all your help...